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ABSTRACT

Following a brief history of the development of simulation as a research and teaching tool in the field of international politics, three specific simulations are examined in more depth. (1) Conflict in the Middle East: A Public Policy Simulation is intended to acquaint students with the political situation in that area and to help them understand the relationship between theory and reality. (2) The Inter-Nation Simulation (INS) is intended to enable students to experience decision making in a smaller and simpler version of the international world. (3) NUCLEAR DETERRENCE attempts to simulate nuclear deterrence in both theoretical and applied contexts. (STS)

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SIMULATION IN THE TEACHING OF INTERNATIONAL POLITICS

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For over a decade and a half, simulation has been used as an integral part of the study of international politics. While simulation was initially utilized primarily as a research tool, it was not long before the pedagogical advantages of this method became apparent. Instructors at both the college and secondary level were becoming familiar with simulation as a teaching device by the mid-1960's, and a variety of simulation exercises have been developed for this purpose. But the adoption of simulation in this fashion has been accompanied by questions which have been raised by both users and developers concerning such wide-ranging problems as validity, student acceptance, the cost in time and resources, and the general ability held by students to transfer the learning experience from simulation to the real world of international politics. The sheer number of classroom simulations currently available has also posed a problem for instructors who must choose the simulation or simulations that best suit the goals of both the teacher and the course. The problem may be even more basic than this - should one use simulation at all?

The initial development of international relations simulations began in the late 1950's, with several projects originating at about the same time. In California, work was being done at the RAND Corporation by Herbert Goldhamer on the Political-Military Exercise (Goldhamer & Speier, 1961, Smoker, 1973), and the basic design of PME was later adopted and modified by Lincoln Bloomfield and Norman J. Padelford at MIT (Bloomfield, 1960, Bloomfield & Padelford, 1959). The late 1959's also saw development of Project TEMPER, funded by the Department of Defense, and created primarily by the Rayathon Company (Abt & Gordon, 1969). About the same time, Harold Guetskow at Northwestern began work on the Inter-Nation Simulation (INS), basing his initial model on an exhaustive

propositional inventory of the international relations literature which existed at the time. While Guetzkow did not originally perceive INS as a pedogogical device, several of his graduate students, including Robert Noel and William Coplin, saw such possibilities, and later developed their own classroom simulations. Guetzkow himself, along with Cleo Cherryholmes, did develop a teaching version of INS INSKIT, 1966, and this simulation remains in wide use today.

During the mid-1960's, interest in simulation in international politics grew, partially in response to the work by Guetzkow and others, and partially in response to the growing interest in the subject shown by the Federal Government, and particularly the Defense Department. While gaming has long been a part of military training and planning, advances by social scientists were causing the military to become more aware of the advances in simulation that, among other things, integrated "political" and "military" variables and concepts together in a single exercise. The Defense Department thus began making arrangements for cooperation with social scientists in the development of simulation-related exercises, and funding was provided by both the Air force and the Navy. The Navy's participation in particular led to Project Michelson, which was conducted at the Naval Ordinance Test Station at China Lake California between 1959 and 1966, and led to a large number of studies produced by scholars such as Charles and Margaret Hermann, Harold Guetzkow, Thomas Milburn, J. David Singer, Thomas Schelling, Richard C. Snyder, and many others (Milburn, 1969).

This initial work in simulation was bound to spill over into pedogogical applications, and the early work by Guetzkow and Cherryholmes, Bloomfield, and Coplin has been joined today by a large number of classroom-oriented simulation devices, which vary in complexity from simple board games to complex, computer-based interactive models which require some degree of sophistication on the part of the participants.

One of the more prolific developers of pedogogical simulation exercises in the area of international politics has been Professor William Coplin of Syracuse University. Coplin has developed, for example, the State System Exercise, which because of its very simplicity, is a good simulation to use in classroom situations where the students are relatively unfamiliar with the technique. This simulation is also useful as an integrative device to combine macro and micro theories of international politics at a basic level. Coplin has also developed PRINCE, a more complex simulation, and his most recent effort is Everyman's PRINCE, a simulation which allows the student insights into the resolution of a variety of political problems.

Another simulation exercise that has attracted quite a bit of attention, especially on the west coast, is POLIS, developed by Robert Noel (another Guetzkow student), along with William Hyder, both currently at the University of California at Santa Barbara. POLIS (which stands for POLitical Institutions Simulation) allows students to play a variety of crisis and non-crisis situations derived from real-world situations. While Noel developed his own elaborate POLIS laboratory at UCSB, it is possible for students at other institutions to play POLIS via interactive terminals in an inter-university setting, with members of each participating university taking the role of a specific nation and its decision-makers (Dickinson, 1976). These teams interject actions into the POLIS network based on position papers programmed into the simulation. So far, over 35 colleges have participated in POLIS in this manner, and while this number is expected to grow, the problems of communications costs for schools outside California ($500.00 in some cases) may limit the expansion of the system.

STARTREK, an interactive simulation designed to simulate nuclear strategy and the effects of nuclear weapons capacity, has been developed at the University of Michigan. STARTREK is played via a programmed interactive television, and

the player may introduce various options in a man-machine setting, and the program will respond to changes in both strategy and capacity. While the Michigan varsion of STARTREK is programmed in FORTRAN, a version of the simulation written in BASIC is now available at Dartmouth College.

From this brief description of the development of simulation in international politics, we may now turn to three specific simulations for a more detailed examination. The three are "Conflict in the Middle East," "INS," and "Nuclear Deterrence."

CONFLICT IN THE MIDDLE EAST

"Conflict in the Middle EAst: A Public Policy Simulation," was developed by Professor Karen Ann Feste of the Graduate School of International Studies at the University of Denver. This simulation is one of a series entitled Supplementary Empirical Teaching Units in Political Science (SETUPS), and the series itself is the result of a project authorized by the American Political Science Association and funded by a grant from the National Science Foundation. The actual work on the SETUPS projects was done in cooperation with the Inter-University Consortium for Political Research at the University of Michigan. The Test Edition of "Conflict in the Middle East" was published by the American Political Science Association in September, 1975, and the revised edition for actual classroom use is expected to be ready for publication in the fall of 1976.

The actual simulation is designed to give students an understanding of both the situation in the Middle East (current and projected), and also to provide some understanding of how theories of international relations commonly found in the literature may aid in explaining the various political outcomes found in the region. The simulation thus introduces a number of salient issues found in the area which require students to accumulate some degree of knowledge about the area itself and about the interests held there by major powers before actually playing the simulation. The first section of "Conflict in the Middle East" is devoted to a summary of major events and political interests in the

region, and exercises are available which require some library research on the student's part. The simulation is based in part upon a data set collected by Barry M. Blechman (now of the Brookings Institution) on the countries of Israel, Egypt, Jordan, Syria, Lebanon, and Iraq. These events are categorized by the following questions (Feste, 197?):

1) Which country in the Middle East is identified as initiator of the action?

2) What type of action occurs?

3) Which Middle East country is the target of the action?

4) What is the issue of the action?

5) When did the event happen?

A classification system for actions between countries was also established, with actions coded into 22 basic categories where such actions as registering a complaint, threatening another nation, and the establishment or rupture of diplomatic relations are characterized by a basic key work like COMPLAINT, THREAT, WARN, etc. (Feste, 52). These data are provided by the Inter-University Consortium for Political Research and can be used simultaneously with the simulation, but they are not necessary to the central purposes of the game. It is possible to use the data set in conjunction with the student exercises contained in the SETUPS manual.

The simulation is actually played through the assignment of students into country teams, and the first assignment of each team is to write a policy position paper outlining the positions that the nation will take in the first round of the game. The teams consist of:

1) Israel
2) Egypt
3) Jordan
4) Syria
5) Lebanon
6) Saudia Arabia
7) Iraq
8)
9) United States
10) Soviet Union
11) United Kingdom
12) France
13) Palestinians
14) United Nations
15) Rest of the World (ROW)
16) Press

Some of these actors may be excluded if the number of students is insufficient.

After the policy papers are completed, they are turned over to the press, and communications between the teams commences, with the Director serving as the communications channel. Either bilateral or multilateral negotiations may occur, and alliances or joint sponsors of resolutions become common. The nation-state players have the most flexibility, but the non-nation players hold important roles. The team representing the United Nations has the task of outlining and playing the various situations that the organization may find itself involved in the Middle East, specifically as a peacekeeping force, or by the provision of envoys to negotiations. The team that plays the Press may in itself be divided into teams representing The New York Times and Pravda if there are sufficient players, otherwise it may be a unitary actor. Each country team submits a series of news releases to the Press along with their policy papers (unless classified), and the Press compiles a report on the day's activities. The Press is the only means by which all players get the total picture of the events taking place. FInally, a team composed of the rest of the world (ROW) provides input from other nations or organizations (including multi-nationals) who may hold interests in the area. ROW participation must be called for only by request of the national teams in the area.

The major objectives of the game are to have all teams enact the positions outlined in their position papers. The game is divided into move periods of about 30-60 minutes, with four moves as the recommended minimum. The actual control of the game is provided by the Simulation Director, who, in addition to facilitating communication between players, performs such functions as insuring the representative nature of moves and disallowing moves that are unrealistic or invalid. In addition, the Simulation Director assigns a probabili of success or failure to each move, calculated as follows:

Nature of Decision	Probability of Success
Routine	100%
Moderately Routine	80%
Serious, non-routine	60%
Moderately extreme, drastic	40%
Extreme	20%
Unrealistic	0%

In the event of a war occurring, a War Outcome table is provided for the calculations the probability of success or failure for any given move, or moves. The sequence of play is as follows:

1) Newspaper distribution
2) Country strategy session
3) International conference
4) Country session - form move
5) Move submitted to Control
6) Move submitted to Press
7) Press constructs newspaper

As the moves are made, the probability of success or failure is assigned.

Before the final version of "Conflict in the Middle East" was published, the test versions were used in a number of classroom situations during the 1975-76 academic year. Feedback from the evaluation forms which accompany the simulation will be used in making any necessary changes in the final version. From preliminary test results, several things emerge. First, students appear to be enthusiastic about the simulation, and in most cases have been willing to do the necessary background preparation. Secondly, the simulation seemed to work best when preceeded by other, more simple exercises during the course, such as the Coplin State System Exercise mentioned earlier. Professor Feste has used SSE and one other simulation in her own course in international

politics before introducing the students to SETUPS, which was played during the last few weeks of the quarter. Finally, it is interesting to note that the students playing the simulation showed a high reluctance to engage in military conflict, perferring strategies of negotiation and cooperation below the war threshold, and this factor was also observed during a run-through of the simulation during the module. But it seems that once the simulation is played past three turns, the probability of conflict becomes much higher. A similar phenomena, incidently, has been observed in the use of POLIS, mentioned earlier, where in over 2000 hours of gaming, war took place only once. (Dickinson, 58).

THE INTER-NATION SIMULATION

As noted earlier, the Inter-Nation Simulation (INS) was originally developed for research use, and in this guise the simulation has produced a number of interesting studies. Margaret Hermann (1966) used INS to measure the effect of psychological stress on crisis decision-making, and has produced several follow-up studies to this one since then, with work in progress on further research. Daniel Druckman applied INS to test the hypothesis of ethnocentrism as a universal characteristic of nations (Druckman, 1968), and studies of conflict have been done by the Hermann's (Hermann & Hermann, 1967), on the outbreak of World War I, by Richard Brody to simulate the effects of a multi-nuclear future (Brody, 1963), by John Raser and Wayman Crow to study nuclear deterrence, (Raser & Crow, 1964), and these cited studies represent only a small sample of INS as a research tool.

Although INS has been used as a teaching device since 1958, the Inter-Nation Simulation Kit (INSKIT) was not published until 1963. The kit, in its original form, contains:

Instructor's Manuals
Participant's Manuals
350 Main Decision Forms
250 Inter-Nation Agreement Forms
100 Statement of Goals and Strategies
300 Official Advisory Forms
150 Force Utilization Plans

INS players are divided into teams of nations, and either fictional or real nations may be used. Each nation is assigned certain characteristics, such as Overall Satisfaction with Foreign Affairs, Domestic Satisfaction, Decision Latitude, Basic Resources, Population, and so forth (See Guetzkow & Cherryholmes, 1966, 8-10 for complete list). These characteristics are organized along three systems: political, economic, and military. The values for these characteristics are either assigned by the Simulation Director (i.e., changes in satisfaction characteristic), calculated by the players, or drawn from standard sources of political, economic, and population data, such as the World Handbook, the World Almanac, etc.

The nation-teams are divided into sub-categories, such as Head of State (HS), Foreign Policy Advisor (FPA), etc., and, as Guetzkow and Cherryholmes state, "The central driving mechanism of the INS is the need for decision-makers to hold office to remain in control of their government (Guetzkow, 1968, 17). This requirement is important, as INS has opposition forces built into it, and internal political change can come about through several means.

International relations are carried out in the INS in several ways. Nations may communicate directly through written messages, and bi-lateral and multi-lateral conferences may be held. International organizations may also be formed, as may alliances. Nations may also trade with each other, issue threats, and go to war with other nations. The INS routine includes "free," or unprogrammed behavior that allows for the distribution of various messages by nations in the world press, which may be either truthful or deceiving, but in any event allow for students to create their own forms of inter-nation

behavior (Guetzkow, 1968, 17).

For Guetzkow and Cherryholmes, the purpose of the INS is to give "the participants the experience of making decisions in a miniature prototype of the complicated international world" (Guetzkow & Cherryholmes, 2). But INS has not been without its critics. Alker and Brunner (1969, 108) discuss "fallacies of misplaced variables and relationships," and note that problems arose when players were not always able to transfer the experience with fictional nations to their real-world referents. Edwin H. Fedder (1969) suggests that INS is mistaken in its assumption that alliance formation adds to the power of any individual member, and further that the "war" option in INS lacks constraints against such an option that exist in the real world. Coplin (1966, 569) notes that "many verbal theorists could not agree with the neglect of the impact of domestic restraints on the actual processes of negotiation," and further that, ". . .the simulation does not provide the sets of specific issues which, according to some theorists, characterize the international environment." And finally, Smoker (1973, 445) has reviewed the validity studies of INS, and claims that ". . .the reality performance of INS leaves much to be desired." In addition, at least one study has questioned the value of INS as a teaching device (to be discussed later in this paper). But criticism of the original INS has not gone unnoticed by its developers and by others, and several revisions are now either available, or will become available shortly. One such revision is now being developed by Guetzkow and W. Ladd Hollist. This version updates data in the original INS with CREON data and data collected by Professor Edward Azar of the University of North Carolina. The revised INS also substitutes Richardson process equations for some of the original equations for the calculation of parameters, and this is particularly true in the case of competitive arms interactions between

dyads of nations, and real test data has been generated and examined with Richardson equations to measure the amount of interaction between:

USA/USSR

Israel/Egypt

Iran/Iraq

India/Pakistan

The submodels used to measure dyadic reaction are the Reaction Model, the Rivalry Model, the Submissiveness Model, the Explicit Cost Constraint Model, the Reaction/Technology Model, and the Consolidated Arms Race Model (two trials) in order to assess such reactions (Hollist, 1976, Hollist & Guetzkow, 1976). The revised INS will also include a set of hypothesized relationships between and within an arms expenditure module, an economic development module, and an inter-nation cooperation and conflict module. In addition to the variables and parameters specified in the arms race model, this relationship will include variables for an economic development model, such as education, expanding GNP, and tax revenue; and variables for cooperation and conflict, such as inter-nation trade, foreign investment, and foreign air (including both grants and loans). Such additions will add richness to the original INSKIT, and this version should be available once publishing arrangements are complete.

Another version of INS is now available in draft form, developed by Dr. Bahram Farzanegan at the University of North Carolina (Asheville) and R. J. Parker of the North Carolina Educational Computing Service. While the basic structure of INS remains similar, the NCECS version is fully computerized, and the time-consuming calculations that the students had to make are now done for them by machine. The NCESC version (called INS2) is currently undergoing evaluation, and should be ready for distribution shortly.

The final simulation in this paper is NUCLEAR DETERRENCE, developed by the author with assistance through a grant from the Lilly Endowment, Inc. This simulation involves an effort to simulate nuclear deterrence in both theoretical and applied forms. The simulation itself is designed for several purposes, and the first involves the need to organize pedagogically the complex factors required for a thorough understanding of nuclear deterrence. Such factors include deterrence theory itself, capacity analysis, measurement of intent, perceptual variables such as perception and misperception, the impact of technology, alliance structures, cost and risk analysis, and so forth. It is one purpose of NUCLEAR DETERRENCE to enhance student understanding of the inter-relationships between these factors as they are organized into a cohesive framework. NUCLEAR DETERRENCE is also designed to demonstrate the differences between theoretical and applied approaches to deterrence. It may be noted that much of the contemporary literature on deterrence relies on assumptions of "rationality" (George and Smoke, 1974, Ch. 4, Schelling, 1960), and that these assumptions have been primarily derived from game-theoretic models. But in NUCLEAR DETERRENCE it is possible for students to opt for either "rational" or "non-rational" choices, where non-rational implies the presence and effect of certain modes of behavior that may lead to non-maximalizing responses. NUCLEAR DETERRANCE also allows a comparison of the "maximalist" versus the minimalist" approach to deterrence. The "minimalist" approach is practiced by nations that cannot afford to achieve nuclear parity with the super-powers (the U.S. and the USSR), and thus rely on attempting to convince a potential superpower attacker that even a small number of successful nuclear shots will cause unacceptable damage. The "maximalist" approach, practiced by the U.S. and the USSR, seeks to convince an opponent that unacceptable damage will be wrought upon him in the event of a nuclear attack, but differs in that the target for the initial strike will

be the opponent's nuclear force, made in an effort to minimize damage from the use of such a force. This approach thus implies nuclear parity as a requirement for a maximalist approach, and thus questions about comparative nuclear capacity become much more important with this approach.

There has been an important debate in the discipline of international politics about the meaning and measurement of nuclear capacity, and such questions are partially addressed in the simulation. Nuclear capacity will be measured in at least four ways: number of warheads, number of launchers, (land-based intercontinental ballistic missile submarines), and the total effect of these measurements will be combined with measurements of accuracy. This is done through the calculation of "K" (kill capacity) as expressed by

$$K = \frac{NY}{(CEP)^2}^{(2/3)}$$

where NY stands for nuclear yield (the capacity of deliverable megatonnage) and CEP means circular error probability, defined as the radius of a circle within which 50 per cent of nuclear shots will fall within. All nuclear-equipped nations will be provided with K factors, which will correspond to real estimates of K held by the nations involved. Since decisions about the size of K and its advantages and limitations are affected (and in turn affect) strategic choices, each nation's K will serve as a parameter on the choices available. For example, K is affected much more by quantum increases in accuracy then through increases in throw weight (launch vehicle payload capacity) and megatonnage, and thus advantages in K normally reflect advantages in accuracy over nuclear yield. This advantage may be translated into a relatively higher probability for a successful counterforce strike (against hardened ICBM's) for those who hold it, and lower K's amy compel either an attacker or a responder to an attack to target softer targets such as cities, with less military advantage. The advantage in K that the United States is expected to hold by 1980 over the Soviet Union (approximately 8:1) will ultimately give the U. S. a

first-strike capability over Soviet ICBM's and the USSR is not expected to overcome this advantage until 1990. Information such as this will be given to students, and they will be able to plan their strategies accordingly. This information will be supplemented by the calculated probability of success for various combinations of nuclear attack. The probability of a single-shot kill probability (SSKP) the chances of a single nuclear warhead achieving a hit within the lethal radius (LR) and scoring a kill) will be provided, as will the calculated errors involved in a multiple firing of a nuclear system. Each step of the missile flight holds a certain error of failure attached to it, and these error probabilities are multiplicative - thus more complex systems are more prone to error than are simple ones, and consequently students may make choices along this dimension as well. They may calculate the error probabilities attached to both opponent and alliance nuclear forces as well as their own systems. It can be noted in passing that K factors are now being used by both the United States and th- Soviet Union to calculate nuclear capacity, so the measure does approximate reality.

Students will also have the option of choosing between strategic and tactical nuclear weapons. While the actual distinction between strategic and tactical weapons is admittedly blurred, strategic weapons will be operationalized as land-based ICBM's, submarine-launched ballistics missiles of over 1000-mile range, and manned strategic bombers. Weapons below this threshold will be labeled "tactical," and will be seen as limited primarily to limited battlefield situations. In order for this choice to approximate reality, students will be introduced to the concept of a "firebreak" between nuclear and non-nuclear (conventional) forces, so that this latter option will be available as well, with its lower risk factor. Students may decide on their own whether the threat is sufficient to warrant the crossing of the firebreak to tactical nuclear weaponry, and finally may ascertain whether this crossing will ultimately

lead to the use of strategic nuclear weapons in an all-out conflict. Such choices will provide a real assessment of the costs and risks involved in deterrent choices where nuclear weapons are concerned.

The first trials of NUCLEAR DETERRENCE will involve only the U.S. and the USSR, but subsequent trails will include the other nuclear-equipped nations as well, specifically, Great Britain, France, and the People's Republic of China. India is not presently included since she lacks a deliverance capacity. These other nations allow some interesting possibilities, especially with respect to alliance formation. Once such situation may arise if the Soviets engage in a simulated attack on Western Europe, and the French become faced with the choice of either using the minimalist (Gallios) approach unilaterally, or allying themselves with either the U.S. alone or with NATO. A Soviet attack on the Peoples Republic of China also poses interesting alliance posibilities for alliance formation between the PRC and the U.S.

As noted above, students will have the option of employing "non-rational" responses to the various actions in the simulation. This will allow the students to become more aware of the effect that emotions and other personality factors have on crisis decision-making. In addition, the concept of "national character" will be programmed into the play. This concept is controversial among international relations scholars, and it is being used here only to approximate the national goals that the various national actors in the simulation may hold, as well as the means used to obtain such goals. For example, the Chinese concept of defense policy has been characterized as defensive in nature, with little attention paid to expansion beyond Chinese national borders, or areas that have not been a part of China in some period of history. On the other hand, the Soviets have shown themselves willing to engage in expansionary behavior when it suits their national interests, and when the risks and costs are not perceived as excessive. Similar characteristics may be identified for the other

nations in the simulation based on their foreign policy behavior, although they may not be as precise as those indicated for the Soviets or the Chinese. The purpose of this concept is simply to constrain student players in their choice of options.

EVALUATION AND CONCLUSIONS

At this point, it is apparent that the use of simulation in the teaching of international politics has been widespread, and appears to be growing rapidly But is such a development justified in terms of the effort and expenditure of resources? What is the opportunity cost involved in substituting simulation for lecture and class discussion? If it can be shown that the use of simulation increases student motivation and interest in studying international politics, and further that students learn as much or more through simulation as through the more traditional methods of teaching, the use of simulation may well be justified. But the available evidence of this is not very conclusive. When INS was originally developed at Northwestern University, the developers and their associates reported that the simulation raised the interest and motivation of the students involved, and this occurred in part due to the student's enjoyment of the simulation runs (Alger, 1963). Similar results were reported on the use of the Political Military Exercise at MIT (Bloomfield & Padelford, 1959, 1112). But these claims were not accompanied by empirical data to verify them, and it was not until 1966 that an empirical evaluation of INS appeared that did not exactly support the earlier enthusiasm seen above. Robinson, et al. compared the use of case studeies and INS in international relations courses, and found that in terms of learning differences, levels of motivation, and amount of interest shown, there was no significant difference between the two approaches (Robinson et al. 1966). Such findings, which the authors indicate have been

supported elsewhere by Charles McClelland (p. 65), are troublesome when one considers the amount of time and cost invclved in preparing case studies for teaching compared with the much greater allocation of such resources involved in purchasing, preparing, and running INS, or some other simulation. It would, in fact. lead users or potential users of simulation in search of more recent evaluations that might disconform these earlier findings, but one of the original authors (Margaret Hermann) has indicated to this writer that these results remain confirmed by later tests. It must be noted, of course, that the findings pertain directly to INS only, as it was the simulation used in the experiment, but it is not unrealistic to generalize these findings to other simulations as well, although it may be surmised that the tedious calculations involved in INS and the problem of identifying with the fictional nation-states in that simulation may have detracted from the learning experience.

Why use simulation in the classroom at all, then? Perhaps several reasons may be offered by way of conclusion. First, despite the impressive and complete nature of the Robinson et al. findings, clearly more research needs to be done on the effectiveness of international simulations before any final verdicts may be rendered. Secondly, questions may be raised about whether motivation and interest are things that a simulation should be able to generate by itself in the first place. Granted, if a simulation produces only boredom or frustration, it should either be abandoned or at least revised. But in this writer's opinion, the principle purpose of any simulation should be to instruct students in the complexities of international politics, and the interest and motivation should come from an involvement in the topic itself, and not simply from a supplemental simulation. The ultimate success or failure of any simulation may well rest, then, as much on the course itself, the quality of the lectures, discussions, and reading material, as it will upon the simula-

tion itself. This implies that previous preparation in the topic is vital, and that simulation may well work best if used towards the latter part of any course. Alternatively, simulations should at least be well-integrated into any course, with adequate time devoted to both preparation and de-briefing. A number of instructors have found, in fact, that the de-briefing sessions are often the most useful parts of the total simulation exercise, for it is here that the transfer of the learning experience from the simulation itself to the more generalized world of international politics may take place.

Finally, much more work needs to be done in the area of evaluation. Fortunately, such evaluational work is now being done, and is now becoming available, for example, through the American Political Science Association's DEA Newsletter and through various activities of the International Studies Association. As this work progresses, the tasks of selecting and using simulation effectively will hopefully become much easier.

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